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A surface blood pressure sensor 90 on the perimeter 12 of the mask 10 in contact with the patient can be used to monitor the patient's blood pressure.

On page 7 line 20 bridging to page 8 line 3 beginning with the third paragraph on page 7 and bridging to page 8 please amend the application as follows:

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Fig. 5 shows an example of the types of sensors 25 used in zones 20 around the perimeter of the mask 10. Physiological signals from a patient's skin potential are detected by sensors in the zones 20 around perimeter 12 of mask 10. Conductive electrode paste may be used to improve the electrical contact between the sensors 25 and the surface of the skin. The conductive paste can assist in reducing the impedance between the face and the electrical output from the sensors 25 in zones 20. The conductive paste may also assist in preventing gas leaks.

IN THE CLAIMS:

Please cancel claims 1 –31.

Add new claims as follows:

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32. (new) A mask with sensors for monitoring a patient during gas delivery comprising:

a mask having a perimeter on its outer edge for making a sealing contact with the face of a patient,

at least one sensor on the perimeter of the mask makes contact with the face of the patient for measuring at least one parameter indicating a state of the patient,

at least one lead in the perimeter of the mask connected to the at least one sensor for transmission of data,

a means for transmitting data from the mask,

a hose connector on the mask for attachment of a hose for delivery of gas to the mask.

33. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 having,

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at least one recess on the surface of the perimeter with one of the sensors in the recesses for contacting the skin of the patient.

34. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 33 wherein a soft pliable material is used on the perimeter of the mask such that the mask engages the contours of the face providing a good seal and the sensors engage the face of the user.

35. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 34 wherein,

a carbon embedded rubber material provides electrical contact between the sensor in the soft pliable material and the patient's skin.

36. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

the means for transmitting data from the mask comprises a mask interface connector for connecting the leads in the perimeter of the mask to a cable.

37. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 33 further comprising,

a means for providing power to the mask to operate the sensors.

38. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 37 wherein,

the means for providing power to the mask to operate the sensors comprises a mask interface connector connecting a power source lead to a power lead in the perimeter of the mask connected to one of the at least one sensor in the perimeter of the mask and;

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the means for transmitting data from the mask comprises a mask interface connector for connecting the leads in the perimeter of the mask to a cable.

39. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 33 wherein,

the at least one sensor on the mask selected from the group consisting of, EEG, EMG, EOG, ECG, PTT, temperature, surface blood pressure, pulse, blood oxygen level, light, breathing rate, breathing volume, gas flow, nasal air flow, oral air flow, position, activity sensors, mask leakage, mask pressure, eye movement, microphones, gas pressure, patient recycled air detection, patient back gas and movement.

40. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

the mask has at least one strap attached to the mask to hold the mask in place.

41. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

the mask has at least one strap attached to the mask to hold the mask in place and the strap has at least one sensor wired to the mask for monitoring the patient.

42. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 41 wherein,

the at least one strap includes a chin strap.

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43. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 42 wherein,

a cap attached to the mask to hold the mask in place.

44. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

the mask has a cap with at least one sensor attached to the cap, a sensor lead on the cap connected to the means for transmitting data from the mask.

45. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 42 wherein,

at least one sensor in the chin strap for measuring chin EMG.

46. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 41 wherein,

the straps include a head strap having a sensor for measuring EEG.

47. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 43 wherein,

the cap includes a sensor for measuring EEG.

48. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 41 wherein,

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the strap includes an oxygen saturation sensor applied to the ear of the patient.

49 (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

a thermal sensor on a portion of the mask detects changes in temperature on that portion of the mask.

50. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 49 wherein,

the thermal sensor is thermally coupled to a thermally conductive material.

51. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

a thermal sensor on the mask proximate the patient's nose transmits temperature variations for nasal breathing detection.

52. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

a thermal sensor on the mask proximate the patient's mouth transmits temperature variations for oral breathing detection.

53. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 32 wherein,

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a thermal sensor on the mask proximate the mask perimeter transmits temperature variations for leak detection.

54. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 49 wherein,

the thermal sensor comprises a thermocouple.

55. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 49 wherein,

the thermal sensor comprises a thermister.

56. (new) A mask with sensors for monitoring a patient during gas delivery as in claim 49 wherein,

add B'